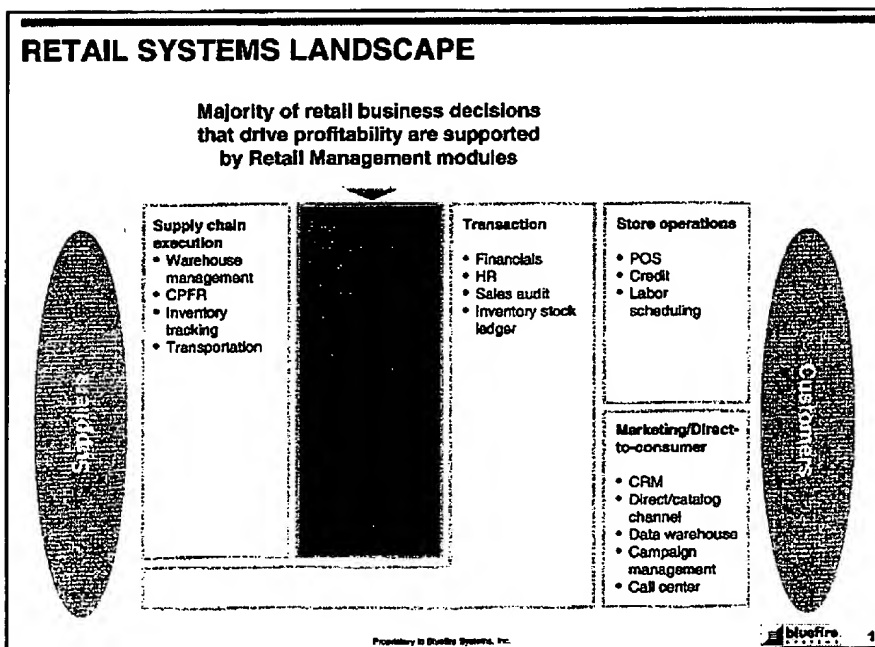


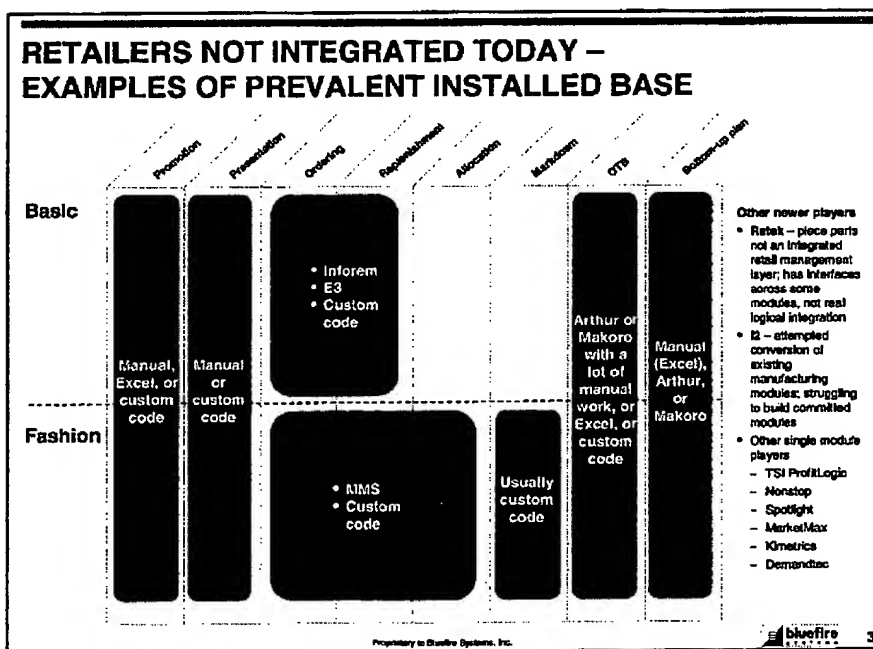
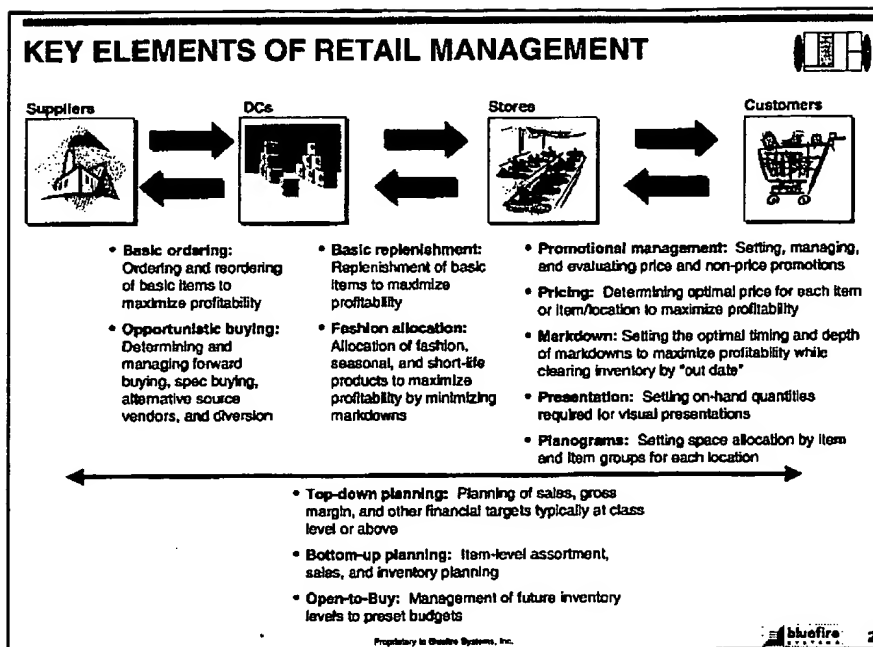
**bluefire**  
 S Y S T E M S

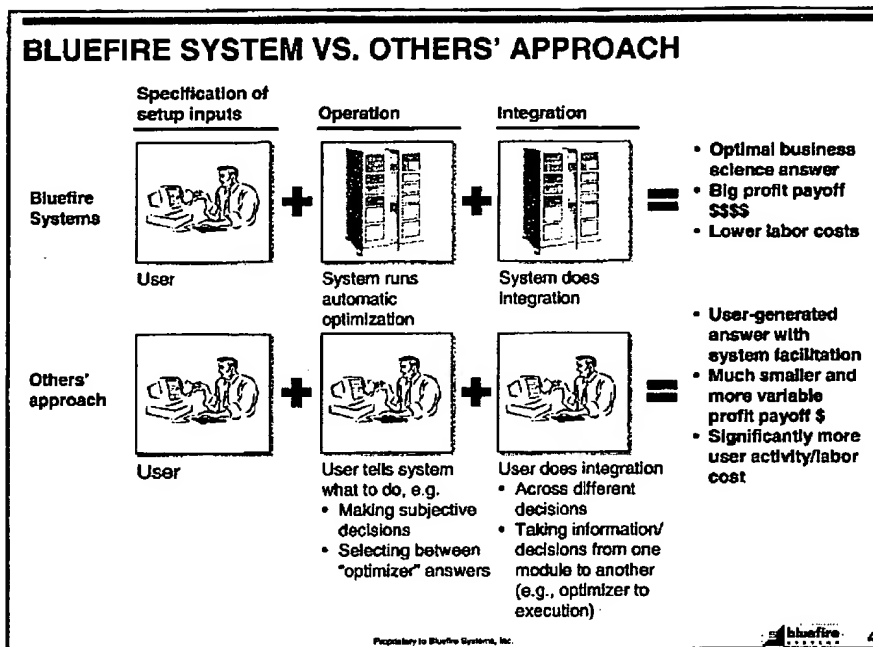
## Bluefire Presentation to Examiner Beth van Doren

May 27, 2005  
 Application Nos. 09/755,635, 09/755,355, 09/760,377, 09/888,336,  
 09/766,539 and 09/905,174, Atty Docket Nos. BLFR 1001-1 to 1006-1  
  
 (Examiner Jeanty: 09/708,944, Atty Docket No. BLFR 1000-1  
 Examiner Hirt: 09/905,255, Atty Docket No. BLFR 1007-1)

Proprietary to Bluefire Systems, Inc. Copyright 2001, 2005.








### SIMILAR BUSINESSES, DRAMATICALLY DIFFERENT RESOURCE REQUIREMENTS

Retailer type	Non-Bluefire user Specialty	Bluefire user Specialty
<b>Revenue</b>	~\$250 million	~\$200 million
<b>Number of stores</b>	116	285
<b>Number of styles (in any one store)</b>	1,500	1,200
<b>Number of DCs</b>	1	1
<b>Planning and allocation FTEs</b>	34	13
• Directors/other mgmt.	4	3
• Planners	14	9
• Allocators	16	1
<b>Retail Management Systems/Tools</b>	MMS Makoro Custom code Esbase database Excel	Bluefire Systems Excel

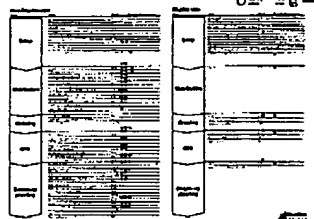
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300,000<sup>+</sup>  
style x locations

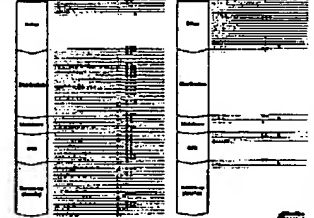
Two similar-sized specialty retailer subsidiaries of large retailers; the one running Bluefire has 60% less people and manages the goods at a more detailed level

## SIMILAR BUSINESSES, DRAMATICALLY DIFFERENT WORK REQUIREMENTS

BASIC PRODUCT WORK COMPARISON



FASHION PRODUCT WORK COMPARISON



### Basic

- Total manual steps 53
- Repetitive steps 32

### Fashion

- Total manual steps 52
- Repetitive steps 41

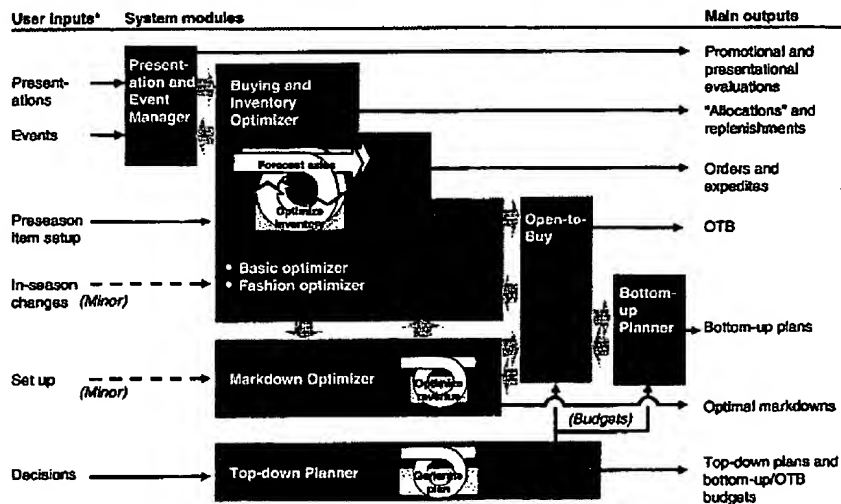
	Non-Bluefire user	Bluefire user
Basic		
• Total manual steps	53	19
• Repetitive steps	32	7
Fashion		
• Total manual steps	52	22
• Repetitive steps	41	7

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## BLUEFIRE SYSTEM LOGICAL LAYOUT



\* These are the typical user inputs but would be replaced by electronic inputs if available, does not include the typical electronic inputs of sales, on hands, intransits, on order, item master, and location master

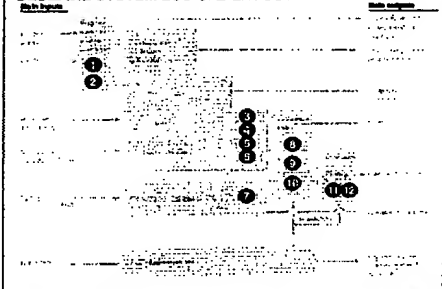
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## AUTOMATIC INCORPORATION OF CHANGES – PRESENTATION EXAMPLE

### BLUEFIRE SYSTEM LOGICAL LAYOUT



### Action: change in-store presentation quantity for a future event

#### Automatic results

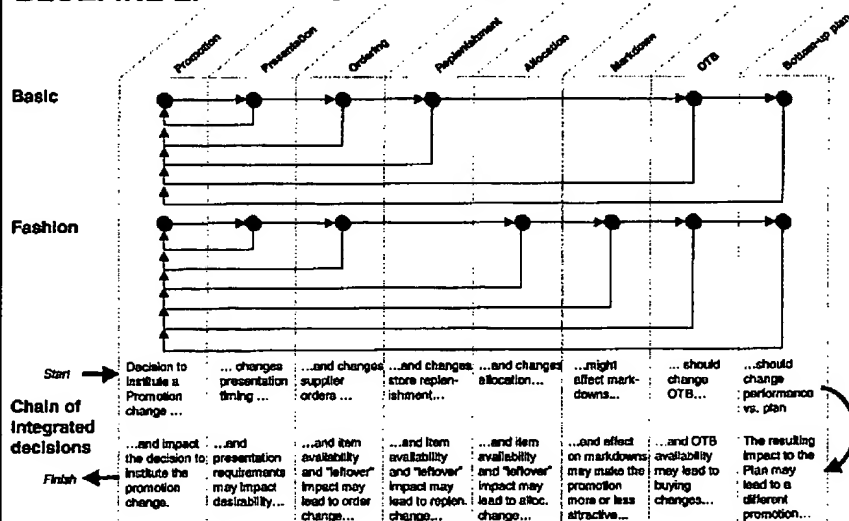
- |                                       |   |
|---------------------------------------|---|
| <b>Presentation and event manager</b> | <ul style="list-style-type: none"> <li>1 Identification of noneconomic presentation quantities</li> <li>2 Flagging of within cycle changes</li> </ul>   |
| <b>Buying and Inventory Optimizer</b> | <ul style="list-style-type: none"> <li>Changes during appropriate periods of</li> <li>1 Orders</li> <li>2 Allocations</li> <li>3 Distributions</li> <li>4 Identification of any stockouts induced by changes</li> </ul> |
| <b>Markdown manager</b>               | <ul style="list-style-type: none"> <li>5 Changes of suggested optimal markdowns (Only caused by suboptimal inventory location)</li> </ul>   |
| <b>OTB</b>                            | <ul style="list-style-type: none"> <li>Changes in OTB in appropriate time periods for the impact of changes in</li> <li>6 Orders/postallocations</li> <li>7 DC Inventory</li> <li>8 Store Inventory</li> </ul>          |
| <b>Bottom-up planning</b>             | <ul style="list-style-type: none"> <li>Changes bottom-up plan GMROI and other projected results in appropriate time periods for the impact of changes in</li> <li>9 DC Inventory</li> <li>10 Store Inventory</li> </ul> |

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## INTEGRATED RETAIL MANAGEMENT DECISIONS – BLUEFIRE EXAMPLE OF A PROMOTION CHANGE



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## BLUEFIRE SYSTEMS DECISION INTEGRATION

	Promotion	Presentation	Ordering	Replenishment	Allocation	Markdowns	OTB	Bottom-up Plan	Top-down Plan	Comments
Promotion		✓	✓	✓	✓	✓	✓	✓		Promotions typically change sales and stock and, in many cases, presentation
Presentation	✓		✓	✓	✓	✓	✓	✓		Presentations typically change stocking and typically sales (many times acting as presentation promotion)
Ordering	✓			✓	✓		✓	✓		Orders impact the availability of goods for replenishment, allocations, presentations, and promotions, and change OTB and Bottom-up Plan results
Replenishment	✓	✓	✓				✓	✓		How replenishments are being done impact orders, promotions (e.g., no point running a promotion if you do not stock for it), and presentations, and the results in OTB and Bottom-up Plans
Allocation	✓	✓				✓	✓	✓		How allocations are being done impact orders, promotions, presentations, and markdowns, and the results in OTB and Bottom-up Plans
Markdown	✓				✓		✓	✓		Markdowns impact promotions, presentations, and allocations, and change the results in OTB and Bottom-up planning
OTB	✓	✓	✓	✓	✓	✓		✓		OTB decisions impact the availability of goods for all the other decisions
Bottom-up Plan	✓	✓	✓			✓				Decisions you make to hit plan typically affect how you promote, present, order, markdown, and what you do with OTB
Top-down Plan										The Top-down Plan is generally done before other activities and feeds budgets to OTB and Bottom-up planning

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### OTB REPORT – ITEM LEVEL EXAMPLE

[illegible]

**OTB for basic items automatically generates:**

- 1 Budgets flowed down from specified values via sales or optimal stocking inventory
- 2 Calculates actual OTB
- 3 Calculates a statistical OTB where notional orders (in minimum order quantities if applicable) have been placed to maintain basic optimal stocking and fashion re-buys
- 4 Calculates any revenue lost to planned markdowns, promotional discounts, and other discounts (e.g., employee sales or write-offs) and gains from SRP increases
- 5 Calculates forecasted sales net of discounts and any stockouts
- 6 Calculates any sales forecasted to be lost to stockouts
- 7 Calculates any overstocks, including minimum order quantity induced levels
- 8 Calculates any overstocks above minimum order quantities and where an actual PO exists

Proceedings of the Institution of Mechanical Engineers 1990

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**NUMBER OF BOTTOM-UP PLANNING FORECAST  
REPORTS AUTOMATICALLY GENERATED**

[illegible]

**Bottom-up Planning generates future forecasts of:**

- Performance at different levels of product hierarchy
- Item and store level selling (daily, weekly, and monthly units and dollars)
- Supplier or production orders (daily, weekly, or monthly)
- Item-level DC and store inventories (daily, weekly, or monthly)

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## BLUEFIRE SYSTEMS KEY BENEFITS SUMMARY

Module	Results In...
Presentation and Event Manager	<ul style="list-style-type: none"> <li>• Incorporation of visual presentations in all decisions and identification of non-economic visual quantities; Incorporation of promotional/causal events in all decisions and identification of successful and unsuccessful events</li> </ul>
Buying and Inventory Optimizer	<ul style="list-style-type: none"> <li>• Right order quantities from suppliers at right time to maximize profits/return; right stocking of stores and minimization of inventory throughout supply chain</li> </ul>
Markdown Optimizer	<ul style="list-style-type: none"> <li>• Suggests optimal timing and level of markdowns to maximize revenue and profits; more effective decisions and in-store execution from seeing rest-of-season markdown timings each time</li> </ul>
Open-to-buy	<ul style="list-style-type: none"> <li>• Massive elimination of workload and more effective determination of where reductions in inventory would have minimal impact on sales and profits</li> </ul>
Bottom-Up Planner	<ul style="list-style-type: none"> <li>• Massive elimination of workload and better determination of which products to buy, where to include them in the store assortments, and how they will perform</li> </ul>
Top-Down Planner	<ul style="list-style-type: none"> <li>• Less costly development of long term financial plans</li> </ul>

### Examples to Posing Selects for


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**RIGHT LOGICAL DESIGN OVERVIEW**

Logical element	Description
	<b>Fashion/basic split</b> Optimize inventory differently for fashion, basic, and seasonal basic products
	<b>Item/location/day optimization</b> Sales forecasts and inventory optimization done at the item/location/day level
	<b>Multi-echelon optimization</b> Every echelon of the supply chain integrated into the optimization in a manner that minimizes the exposure to high sales variability situations
	<b>Correct presentation/event integration</b> Correct integration of presentational and promotional events throughout all the calculations of the system
	<b>Right calculation engines</b> Proper separation of fashion, and basic, and then integration of all setup and calculations to yield the best answers

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**BASIC, SEASONAL, AND FASHION LOGIC**

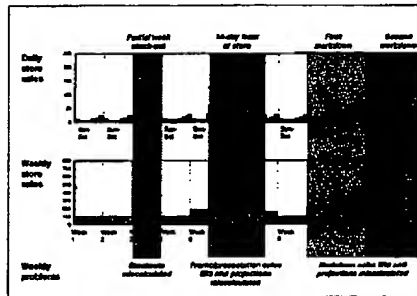
	Basic	Seasonal	Fashion
<b>Overall approach</b>	<ul style="list-style-type: none"> <li>Model stock pull</li> </ul>		<ul style="list-style-type: none"> <li>Model stock-driven push-pull-push</li> </ul>
<b>Forecasting</b>	<ul style="list-style-type: none"> <li>Historical item projection via auto-selected causal or noncausal math</li> <li>Daily forecast</li> <li>Item/location-specific coverage cycles</li> </ul>		<ul style="list-style-type: none"> <li>Historical profile and historical share projection with Inseason auto correction</li> <li>Daily forecast</li> <li>Item/location-specific coverage cycles</li> </ul>
<b>Optimal quantity method</b>	<ul style="list-style-type: none"> <li>Economic cost/benefit optimization</li> </ul>		<ul style="list-style-type: none"> <li>Preseason in planning or basic</li> <li>Inseason profile and actual performance-driven</li> </ul>
<b>History</b>	<ul style="list-style-type: none"> <li>This Item or cloned item</li> <li>Stockout corrected</li> </ul>		<ul style="list-style-type: none"> <li>Item or group of items</li> <li>Stockout/markdown corrected</li> </ul>
<b>Presentation incorporation</b>	<ul style="list-style-type: none"> <li>Sell in through to protected</li> <li>Special display option</li> </ul>		<ul style="list-style-type: none"> <li>Different flavors of scaling down</li> <li>Initial protect option</li> </ul>
<b>Event factor incorporation</b>	<ul style="list-style-type: none"> <li>Automatic</li> </ul>		<ul style="list-style-type: none"> <li>Automatic</li> </ul>

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## WHY BLUEFIRE USES DAILY TIME PERIOD FOR FORECASTING



### Advantages of daily

- Better filling of stockout problems
- More accurate historical calculation of presentation, promotional, and markdown sales lifts
- More accurate future application of presentation, promotional, and markdown lifts
- Use exact cycles so a 9-day coverage cycle does not turn into 1 week (7 days) or 2 weeks (14 days)
- Input events exactly so you do not have to handle what to do with events that do not start and stop cleanly on week breaks

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## INCORPORATING PRESENTATIONS CORRECTLY

### Options for treatment of presentation quantities\*

### Use for basic items

### Use for fashion items

#### 1. Protect



Retains PQ in almost all cases

- Do not sell into presentation

- Do not sell into presentation (used only beginning of life)

#### 2. Sell-In



Could result in



- Sell into presentation quantity

- Generally not used in fashion

#### 3. Phase-down



- Reduce presentations at the end of events

- Reduce presentations at end of life

#### 4. Special display minimum



- Additive to normal presentation for some period of time

- Additive to normal presentation, initial distribution only

Right type of presentation inclusion has major inventory and sales impact

\* Seasonal basic items can be treated like basic or fashion

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## RIGHT CALCULATION APPROACH - ORDER EXPEDITE REPORT NEW ITEM EXAMPLE

Order Expedite Report  
As of 07/20/00  
Store: 101239  
Report: 07/20/00

Item	Date	Quantity	Cost	Revenue	Profit	Days	Start	End
101239	06/19/00	0	0.0	0.0	0.0	0	0	0
101239	06/20/00	66	-66.0	-66.0	0	0	0	0
101239	06/21/00	92	-92.0	-92.0	0	0	0	0
101239	06/22/00	195	-195.0	-195.0	0	0	0	0
101239	06/23/00	203	-203.0	-203.1	0	0	0	0
101239	06/24/00	602	-602.0	-602.1	0	0	0	0
101239	06/25/00	1088	-1088.0	-1088.1	0	0	0	0
101239	06/26/00	1910	-1910.0	-1910.1	0	0	0	0
101239	06/27/00	1959	-1959.0	-1959.2	0	0	0	0
101239	06/28/00	2313	-2313.0	-2313.2	0	0	0	0
101239	06/29/00	2346	-2346.0	-2346.2	0	0	0	0
101239	06/30/00	2345	-2345.0	-2345.2	0	0	0	0
101239	07/01/00	2346	-2346.0	-2346.2	0	0	0	0
101239	07/02/00	2346	-2346.0	-2346.2	0	0	0	0
101239	07/03/00	2346	-2346.0	-2346.2	0	0	0	0
101239	07/04/00	2346	-2346.0	-2346.2	0	0	0	0
101239	07/05/00	2346	-2346.0	-2346.2	0	0	0	0
101239	07/06/00	2346	-2346.0	-2346.2	0	0	0	0
101239	07/07/00	2346	-2346.0	-2346.2	0	0	0	0
101239	07/08/00	2346	-2346.0	-2346.2	0	0	0	0
101239	07/09/00	2346	-2346.0	-2346.2	0	0	0	0
101239	07/10/00	2339	-2339.0	-2339.2	0	0	0	0
101239	07/11/00	2339	-2339.0	-2339.2	0	0	0	0

Date first shipment needs  
to leave DC to go to  
longest-lead-time stores

Quantity understocked by  
day

Days stocked out

Start of selling in stores  
(in date)

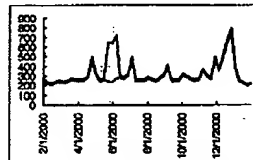
The system uses in dates, out dates, and other action trigger dates  
to automatically optimally stock the DCs and stores – identifying  
problems where they occur

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## RIGHT CALCULATION APPROACH - STORE-LEVEL ADJUSTMENTS FOR EVENTS AND SEASONALITY

Promotional  
response



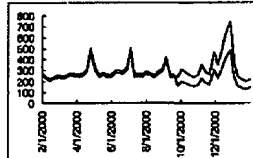
- Promotional event sales acceleration
- Cross-item event sales acceleration or cannibalization

Seasonal  
responses



- Holiday periods (e.g., Christmas)
- Back-to-school
- Winter/summer stores (e.g., Florida, Phoenix)

Other  
cannibalization  
impacts

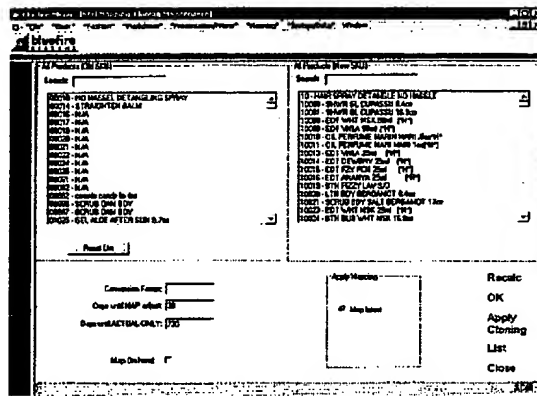


- Assortment addition or elimination
- Close by store addition or elimination
- Close by competitor store addition or elimination

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## ITEMS ARE CLONED IF NECESSARY TO GET SUFFICIENT ITEM/STORE HISTORY



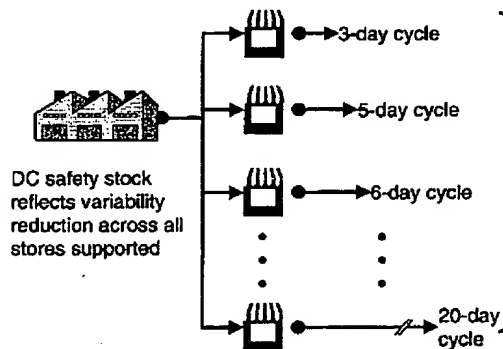
Bluefire allows easy cloning and automatic updating of new products and new locations

- Predecessor items
- Totally new items
- New stores

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## SAFETY STOCKS OPTIMIZED TO CYCLE VARIABILITY ...



Sales variability for each store matched to that store's distribution cycle in determining economically optimal safety stock regardless of which forecasting math used

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## ... AND RIGHT SERVICE LEVEL ...

EXAMPLE

## Cost of stock

- Incremental inventory cost
- Extra shipping/handling cost
- Extra markdown cost
- Extra other costs



## Benefit of incremental sale

- Contribution margin from otherwise unfulfilled sale

Optimal in-stock  
equals balance point

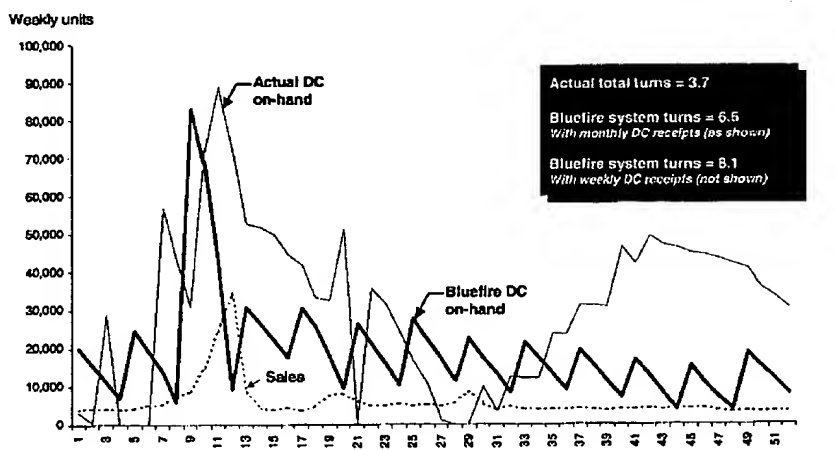
Type product	Example cost issues	Example benefit issues	Optimal in-stock
Seasonal basic item	• End-of-life markdown exposure	• Moderate to high gross margin	98.2%*
Basic item	• Very predictable selling • Moderate to low extra expedite shipping/handling costs	• Moderate gross margin	97.8%
Basic item	• Less predictable selling	• Low gross margin	98.7%
Basic item	• Very predictable selling	• High gross margin	99.3%

Note: Optimal in-stock can vary significantly by retailer and type of good

\* Through a seasonal out-of-date type cutoff (not entire product life)

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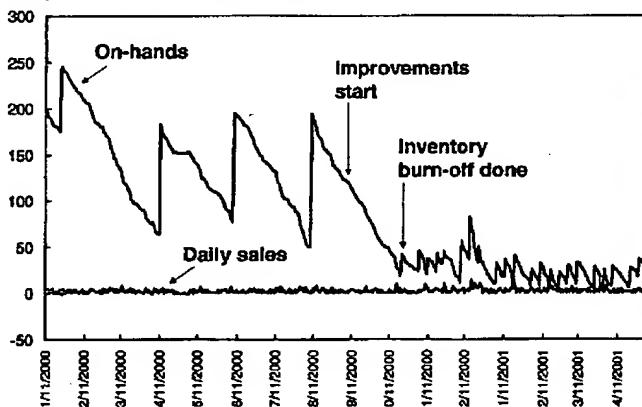
... THEREBY DELIVERING SUBSTANTIAL  
INVENTORY TURNS IMPROVEMENT ...

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## ... DOWN TO THE STORE LEVEL

Daily sales and on-hands – example store



Increase in sales, margin, and inventory turns for basic items from better decisions

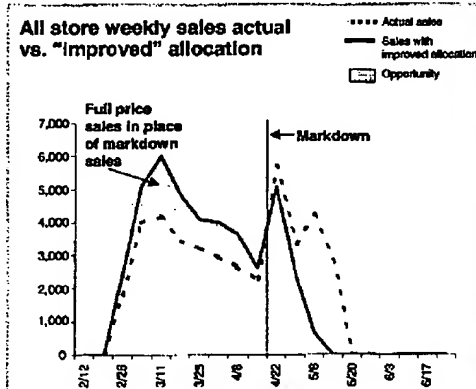
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## RESULT – PROFIT IMPROVEMENT

APPAREL EXAMPLE

All store weekly sales actual vs. "improved" allocation



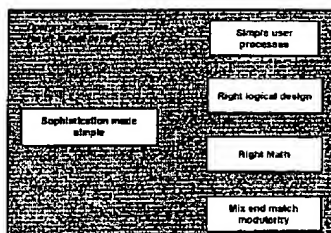
	Actual	Filled
Full price	24,570	32,672
Markdown	16,168	8,066
<b>Total</b>	<b>40,738</b>	<b>40,738</b>

- 8,102 units sold full price instead of at markdown
- Revenue realization improved from 73% to 86%
- Gross Margin improved from \$262,018 (39%) to \$381,137 (49%)
- Old merchandise out 1 week earlier

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## SUMMARY OF CLIENT IMPROVEMENT SINCE BLUEFIRE IMPLEMENTATION



Elements	CLIENT Results After Bluefire
<b>Basic Items</b>	
• Sales	• Negative comps to 6% comps
• Inventory turns	• Up 25%
• Inventory write-offs	• Down 20%
<b>Fashion Items</b>	
• 1 <sup>st</sup> year	• Like program revenue up 7%
• 2 <sup>nd</sup> year	• Like program revenue up 10%

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## BLUEFIRE SYSTEMS RESULTS

### Our target

*Substantially and measurably improve the profitability of retailers*

### Our approach

*Deliver superior operational business science through software and professional services*

### Typical Results






Our offerings typically produce results that ...

- Increase revenue by ~ 5-7%
- Improve gross margin by ~ 2-4%
- Improve inventory turns by ~ 25%
- Lower costs and improve predictability of business

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**LOGICAL ELEMENTS AND PATENT APPLICATIONS**

Logical element	Applications – not limiting
 Fashion/basic split	09/708,944 docket 1000 (Jeanty, promos calendar) 09/755,635 docket 1001 (PQ)
 Item/location/day optimization	Throughout
 Multi-echelon optimization	Throughout, especially 09/905,255 docket 1007 (Hirl)
 Correct presentation/ event integration	09/755,635 docket 1001 (PQ); 09/766,539 docket 1005 (PQ+reports) 09/708,944 docket 1000 (Jeanty, promotions calendar) 09/760,377 docket 1003 (Causal+reports)
 Right calculation engines	09/755,355 docket 1002 (cloned history) 09/905,174 docket 1006 (cannibalization) (no OA) 09/888,336 docket 1004 (simulating+OTB) (no OA) 09/905,255 docket 1007 (Hirl, simulating w/ all)

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